

Amendments to the Claims:

The following listing replaces all prior versions and listings of the claims in the application:

Listing of Claims:

1. (Currently amended) A plug and play computer system, comprising:

a) a computer having a visual display and at least one exterior serial bus port for coupling at least one peripheral device to said computer;

b) an operating system residing on said computer programmed to dynamically configure the computer system, said operating system having a subroutine for generating a first internal configuration message indicative of said operating system sensing a change in the number of devices coupled to said computer and a subroutine for generating a second internal configuration message indicative of said operating system completing a configuration process; and

c) a configuration notification program residing on said computer for receiving said first and said second internal configuration messages and creating a visual display for notifying the user ~~within a fraction of a second~~ in real time when it is unsafe to couple or uncouple a plug and play device to said computer.

2. (Previously presented) The system of Claim 1, wherein said configuration notification program comprises:

a message handler residing on said computer, said message handler hooking said first and said second configuration messages, said message handler including a message analyzer unit and a state determination unit arranged to provide a first output signal when the configuration process is in progress and a second output signal when the configuration process is completed; and

an indication unit residing on said computer and coupled to the output of said message handler, said indication unit generating a visual display notifying the user when it is unsafe to couple or uncouple a plug and play device to said computer.

3. (Original) The system of Claim 2, wherein said indication unit generates a first display indicating that it is safe to remove or insert a device, a second display corresponding to notification that the configuration process is in progress, and a third display corresponding to notification that the configuration process is complete.

4. (Original) The system of Claim 2, wherein said system utilizes a universal serial bus interface and wherein said serial bus port is a universal serial bus port.

5. (Original) The system of Claim 4, further comprising a compound hub and wherein said compound hub is coupled to said port via a universal serial bus cable.

6. (Currently amended) The system of Claim 4, wherein said computer includes a audio output port and said indication unit generates an audio signal to said audio output port indicative of the status of the configuration process.

7. (Currently amended) A computer system, comprising:

a) a computer having at least one USB port;

C₁ b) a compound hub having an USB connector coupled to said USB port of said computer via a USB cable, said hub having at least one USB connector port and at least one non-USB peripheral device port;

c) an operating system with USB interface capability residing on said computer, said operating system generating a subroutine for generating a first internal configuration message indicative of said operating system sensing a change in the bus topology and a subroutine for generating a second internal configuration message indicative of said operating system completing a configuration process for said bus topology;

d) a message handler residing on said computer for hooking said first and second internal configuration messages, said message handler including a message analyzer unit and a state determination unit arranged to provide a first output signal when the configuration process is in progress and a second output signal when the configuration process is completed; and

e) an indication unit residing on said computer and ~~coupled~~ responsive to the output of said message handler, said indication unit generating a visual display in real time ~~within a fraction of a second of the moment when said first or second output signals are generated by said message handler~~ notifying the user whether it is unsafe to remove or insert a plug and play device.

8. (Currently amended) The system of Claim 7, wherein said indication unit generates a first display indicating that it is safe to remove or insert a device, a second display indicating

~~corresponding to notification~~ that a configuration is in progress, and a third display ~~corresponding to notification~~ indicating that the configuration process is complete.

9. (Previously presented) The system of Claim 8, wherein said compound hub has a plurality of non-USB peripheral device ports.

10. (Currently amended) The system of Claim 9, wherein said compound hub replicates the function of a mouse port, a serial port, a printer port, and a keyboard port ~~whereby said computer does not require said peripheral device ports.~~

11. (Currently amended) A method of providing notification of the status of a configuration process of an operating system of a computer having at least one USB port enabling the computer to be coupled to peripheral devices, comprising the steps of:

C | (a) detecting an internal configuration message generated by the operating system whenever the number of the peripheral devices coupled to the computer via the USB port changes;

(b) determining if said internal configuration message corresponds to a change in the number or type of said peripheral devices requiring that a user be notified;

(c) notifying the user in real time ~~within a fraction of a second~~ that a configuration process is in progress when it is determined that the change requires that the user be notified;

(d) detecting an internal configuration completion message generated by the operating system when a peripheral device configuration process is completed;

(e) determining if said internal configuration completion message corresponds to a change in the number or type of said peripheral devices requiring that the user be notified that the configuration process is completed;

(f) notifying the user in real time that the configuration process is complete ~~within a fraction of a second of determining~~ when it is determined that said internal configuration completion message requires that the user be notified; and

(g) notifying the user that it is safe to change the number or type of peripheral devices coupled to the computer.

12. (Currently amended) A method of notifying a computer user of the status of a reconfiguration process initiated by coupling or uncoupling a peripheral device to a computer via

a universal serial bus connector (USB), comprising the steps of:

(a) providing an operating system that automatically detects whenever the number or type of peripheral devices coupled to the computer via said USB connector changes, said operating system generating an internal configuration detection message whenever the number or type of peripheral devices coupled to the computer via said USB connector changes such that a device configuration process is initiated and a configuration completion message when the device configuration process is completed;

(b) hooking said internal configuration detection message;

(c) notifying the user in real time ~~within a fraction of a second~~ that a device configuration process is in progress;

(d) hooking said internal configuration completion message;

C1 (e) notifying the user that the device configuration process is complete and that it is safe to change the number or type of peripheral devices coupled to the computer via said USB connector.

13. (Currently amended) A method of avoiding ~~universal serial bus~~ crashes in a computer system comprising the step of:

providing a USB configuration notification unit having a message handler and an indication unit, said configuration notification unit monitoring internal configuration messages generated by an operating system related to a configuration process, said configuration notification unit providing a computer display output indicating when a configuration process is in progress for a USB device;

wherein said computer display output is updated in real time so that a user is provided information in real time concerning whether it is safe to plug or unplug a USB device to the computer system.

14. (Previously presented) The method of claim 13 wherein said computer system comprises a graphical user interface including a representation of a system tray, and said computer display comprises an icon which is resident in said system tray.

15. (Previously presented) The method of claim 13 wherein said computer display output comprises at least two unique indicators, one of said indicators for alerting the user that a device

connected to the computer via a USB port is being configured and another of said indicators for alerting the user that it is safe to plug or unplug a device to said computer via said USB port.

16. (Previously presented) The method of claim 15 wherein said computer display output comprises a third indicator for advising the user that device configuration has been completed.

17. (Previously presented) The method of claim 14 wherein the color of said icon is changed by said configuration notification unit depending on the state of said USB port and the configuration state of the devices coupled or uncoupled to said USB port.

18. (Previously presented) The method of claim 14 wherein textual information is provided within said icon depending on the state of said USB port and the configuration state of the devices coupled or uncoupled to said USB port.

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19 – 20 (Canceled)

21. (Previously presented) The system of claim 2 wherein said operating system provides a graphical user interface having a system tray, and wherein said indication unit comprises an icon which is resident in said system tray.

22. (Currently amended) The system of claim 21 wherein said icon displays a first color when it is safe to couple or uncouple a plug and play device to said computer system and displays a second color when it is unsafe to couple or uncouple a plug and play device to said computer system.

23. (Previously presented) The system of claim 3 wherein each of said first, second and third displays are located in a system tray of a graphical user interface.

24. (Previously presented) The system of claim 6 wherein said audio output port is coupled to a speaker.

25. (Previously presented) The computer system of claim 7 wherein said visual displays are located in a system tray of a graphical user interface.

26. (Previously presented) The computer system of claim 8 wherein said visual displays are color coded.

27. (Canceled)

C 28. (Previously presented) A configuration notification program for enhancing the operation of a computer system having at least one USB port and an operating system having a graphical user interface, said operating system having the capability of monitoring said USB port, generating an internal message when a device is coupled to the computer via said USB port, configuring a device coupled to the computer via said USB port, and generating an internal message indicating that configuration of the device has been completed, said program comprising:

a message handler for hooking said internal messages,

a indication unit for generating and displaying in real time information indicating whether a device coupled to said computer via said USB port has been configured, such that a user of the computer is alerted whenever there is an enhanced risk that coupling or uncoupling a device to said computer via said USB port will cause a system crash because a configuration process is underway.

29. (Previously presented) The notification program of claim 28 wherein said indication unit generates a unique display indicating that it is safe to couple or uncouple a device to said computer via said USB port.

30. (Previously presented) The notification program of claim 28, wherein said graphical user interface comprises a system tray and wherein said indication unit displays an icon in said system tray indicating in real time whether a device coupled to said computer via said USB port is being configured.